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Rural Lines

RURAL ELECTRIFICATION ADMINISTRATION • U. S. DEPARTMENT OF AGRICULTURE





A Message from the ADMINISTRATOR

What can be accomplished through local initiative and leadership, combined with a small assist from the Federal Government, is the subject of a movie now available from REA and USDA's Office of Rural Areas Development.

The movie, entitled "The Snow Making Machine," is a story of community progress. It shows how a rural community in northwestern Illinois and an REA-financed electric cooperative serving the area pitched in to save a commercial recreational enterprise, thus creating new job opportunities and more income for the area. This was accomplished with financial help from the local bank, and through an REA loan of only \$23,000 to the Jo-Carroll Electric Cooperative.

The cooperative reloaned the money to one of its consumer-members — Chestnut Hills Resort, Inc., of Hanover, Illinois. This money was used by the resort's management to install electrically operated snow-making equipment, outdoor lighting for ski runs, and additional electric motors to operate the chair lift and ski tows. With these facilities in operation, the resort last year had its first successful season. A new 64-unit motel has been constructed near the ski lodge. The development of Chestnut Hills as a full-fledged ski resort greatly increased business for local people and created 50 additional jobs in the community. In addition, the cooperative is benefiting from increased sales of electricity to Chestnut Hills.

In this success story we have a splendid example of how local people can promote the economic development of their area, and how the interest of an electric cooperative helped make the project work.

Early criticism directed at REA over its small loan "for a snow making machine" would seem to be hasty and unwarranted in the light of the results that have been realized. These results have amply justified the prediction made by the local bank president when he said: "The whole area, farmers and townspeople alike, will benefit."

Norman M. Clapp
Administrator, REA


Administrator

Rural Lines

Editor: Samuel Levenson

Cover picture: Teen-age visitors to Washington inspect REA "career" exhibit in patio of Department of Agriculture building. See page 3.

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STUDENTS TODAY, CO-OP LEADERS TOMORROW

This is the time of year when thousands of school children descend upon Washington, D. C., and rock its historic landmarks, staid Government buildings, and downtown hotels with their youthful enthusiasm.

Day after day the fresh-faced invaders pour in. Clad in their "city" clothes, they leap from busses bearing car plates from all over the nation, climb the steps of Congress, view with awe the Lincoln Memorial, and walk miles through the Smithsonian Museum. Then, with unabated vigor, they go out for dinner, amazing cafeteria attendants with their appetites, especially with their consumption of milk, and bringing to sedate Washingtonians, many of them with similar backgrounds, nostalgic memories of when they too were young and the farm silo was an example of towering architecture.

For many of the estimated 200,000 youngsters who each month visit the Nation's capital at the height of the season, the visit was made possible by the generosity of their local electric cooperative. They had earned it by writing an essay on some phase of rural electrification. This has been a long-time activity of REA electric borrowers.

But now, in increasing numbers, the cooperatives are aiding general education by providing funds for rural youth to go to college.

The essay contests are run on simple lines. Children who attend schools in the area served by a cooperative are informed, mainly through the cooperative's newsletter, of the subject and requirements for an essay.

They write on such subjects as: "The Value of Rural Electrification in Our Home and Community"; "My Rural Electric Cooperative: A Turning Point in Community Progress"; "What Rural Electrification Has Done for My Community"; "How Members Benefit from Ownership of Their Rural Electric Cooperative"; and "Rural Electric Co-ops—Good for All Americans." Average length is 1,000 words or less.

A typical judging board might be, as in the case of the Egyptian Electric Cooperative Association at Steeleville, Illinois, the high school superintendent, the State's attorney, a school principal, and the county farm advisor.

Contest winners usually receive a trip, with all expenses paid, to Washington, D. C., where they spend four days. They see Congress in action, and visit such Washington landmarks as the White House, The National Gallery, the Lincoln Memorial, the Smithsonian ("the Nation's attic"), the FBI, the Library of Congress, and the Tomb of the Unknown Soldier. They also visit the REA offices in the Department of Agriculture, and the National Rural Electric Cooperative Association.

Second and third place winners often receive an electrical appliance, as does the teacher of the winner.

In many States, such as Iowa, Illinois, Nebraska, South Dakota, Indiana, and Kansas, the winners travel by bus in a body, 50 or 60 strong. The State rural electrification association provides the chaperones.

One group, on its 1962 excursion, elected a board of directors similar to the cooperative's board to govern its actions during the trip.

Often the participants take pictures of their trip; they are encouraged to use them upon their return to share their experience with other youth and adult groups in the cooperative's service area. Prize-winning essays are frequently printed in the co-op newsletters.

There are many variations in this basic plan. Sometimes only high school seniors may compete, other times sophomores and juniors; often, if two winners are to be chosen, it is specified that one must be a boy and the other a girl.

But in increasing numbers essay prize-winners are being granted college scholarships or other monetary returns instead of trips. North Plains Electric Cooperative at Perryton, Texas, awards each year a \$250 scholarship to a high school senior in its service area; Cloverland Electric Cooperative at Sault Ste. Marie, Michigan, a \$200 college scholarship; Steele-Waseca Electric Cooperative, Owatonna, Minnesota, a \$250 scholarship for one boy and one girl as well as two \$25 bonds; Southside Electric Cooperative, Crewe, Virginia, prizes of \$500, \$300, and \$200. South Dakota rural electric cooperatives give a \$150 scholarship.

North Carolina cooperatives, in a statewide essay contest conducted in collaboration with the statewide publication, *Carolina Farmer*, award several scholarships each year to high school seniors. Total amount is \$2,300.

An accompanying trend is to award the college scholarships on the basis of

competitive examinations, need, and academic standing, rather than essays. On this basis, the Montana State Association of Rural Electric Cooperatives gives three scholarships each year. The Ohio rural electric cooperatives which formerly gave \$1,000 in scholarships have now increased the amount. Beginning in 1962, they are giving a college scholarship worth \$4,000 or \$5,000 to one boy and one girl graduating from high school. This includes \$2,000 in cash plus salary for four summers of co-op work. Eligible are those who plan to study electrical or civil engineering, business administration, home economics, agricultural engineering, public accounting, or related fields.

In eastern Iowa, Eastern Iowa Light and Power Cooperative, Wilton Junction, has joined together with six other rural cooperatives to give \$350 scholarships for four years to students attending Iowa State University at Ames. The first scholarship was awarded for the school year starting in 1962. An additional one will be awarded each succeeding year, until four scholarships are in effect. Recipients are required to take courses dealing with cooperative management, marketing, sales, economics, and related subjects. In addition, each recipient is employed, with salary, during the summer months by one of the participating cooperatives. Winners are selected by Iowa State University.

Sioux Valley Empire Electric Association, Colman, South Dakota, provides a year's tuition for an engineering student; Nodak Rural Electric Cooperative, Grand Forks, North Dakota, and Middle Tennessee Electric Membership Corporation, Murfreesboro, Tennessee, also offer scholarships to such students. The amount provided by Indian Electric Cooperative, Cleveland, Oklahoma, is \$4,000.

REA Administrator Norman M. Clapp (right) receives a plaque from National Farmers Union in gratitude for the assistance provided by REA to NFU junior groups. Angus McDonald, NFU official, makes the presentation. The plaque reads: "Presented to the Rural Electrification Administration in recognition for guidance and assistance in our study of the rural electric cooperatives by Farmers Union Juniors."

Junior groups participating in the study project are composed of young people in the high school age bracket. Notebooks prepared by several of these groups were also presented to the REA Administrator.



Competitive examinations are the basis on which North Central Rural Electric Cooperative at Attica, Ohio, has been providing since 1955 \$400 scholarships to one high school senior boy and girl. Need and scholastic record are the bases on which Butler Rural Electric Cooperative, El Dorado, Kansas, awards a \$100 scholarship to El Dorado Jr. College.

The number of ways which cooperatives have found to aid education, particularly education in cooperative principles and functioning, is almost limitless. Hundreds of cooperatives regularly invite students to visit their plants. Visitors range from sixth graders to high school seniors studying agriculture, commercial courses, or home economics. Boone County Rural Electric Membership Corporation, Lebanon, Indiana recently provided

lunch and a tour for 13 Purdue University students who were studying cooperatives.

Some rural electric cooperatives give local schools electrical equipment (ranges, refrigerators, automatic washers, clothes dryers and dishwashers) and then, after a year of service, sell them at wholesale prices, or at discounts ranging up to 60 percent. Holston Electric Cooperative at Rogersville, Tennessee, and Cotton Electric Cooperative at Walters, Oklahoma, are only two of the many which engage in this practice.

This custom is statewide in Kentucky. By working through their State association, the cooperatives are able to purchase the equipment reasonably because they buy in great quantities. They lend the new appliances each year to the schools, and then sell them in a

YOUTH TO WASHINGTON BUS TRIP...



ALL ABOARD WINNERS:

During June, 1963, a bus load of Illinois High School students will leave Springfield, Ill., for a week's expense-paid tour of our Nation's Capitol and other points of interest. These students will be winners of an essay contest sponsored by various Rural Electric Cooperatives in the state. Two of the winners, who may be from Iroquois, Ford, Vermilion, McLean or Livingston county, will be sponsored by Eastern Illinois Power Cooperative. Our third place winner will receive a well-known brand radio.

ELIGIBILITY:

Any student enrolled in the 10th or 11th year (Sophomore or Junior) and regularly attending a high school serving substantially the same area as Eastern Illinois Power Cooperative is eligible, except previous tour winners or students whose parents are Co-op board members or employees.

REQUIREMENTS:

Submit an essay of 1,000 words or less on the subject "Eastern Illinois Power Cooperative—Good for My Community and Country." Essays are to be typed on 8½x11 inch paper, double-spaced, and on one side only. Requests for official entry blanks must be mailed to Eastern Illinois Power Cooperative by April 1, 1963. Essays must be postmarked or delivered to Co-op office by April 19, 1963.

JUDGING:

Judges will be selected from county school officials and extension personnel, newspaper-staffs, farmers, business and professional people. Final judging will be based on Originality, Contents, Accuracy, Composition and Oral Presentation with answers to questions from judges.

PRIZES:

First and second prizes are expense-paid conducted tours with chaperones to Washington, D. C., and other points of interest, this coming June, 1963. Winners will agree to report to the Cooperative about their tour experiences. Colored slides and script will be available for such reports.

Third prize is a radio. Judges' selections will be final.

COMPLETE RULES, ETC.

Complete rules and regulations will be mailed to each contestant when the coupon below is mailed to the Cooperative office, or when requested by letter or postcard.

Eastern Illinois Power Cooperative announced its 1963 contest in this fashion.

fixed order of preference; parents of home economics students first, then teachers, school officials, co-op staff, co-op members, and finally the general public. One Kentucky co-op—South Kentucky Rural Electric Cooperative at Somerset—supplies no fewer than 13 high schools in this fashion; total, 91 major pieces of equipment.

When a new high school was built in its service area, Union Rural Electric Cooperative at Marysville, Ohio, donated the electric appliances for the home economics department, and contributed toward the purchase of shop equipment—again a fairly common action by cooperatives.

Some cooperatives supply local

libraries with volumes dealing with co-operation—particularly State histories of electric cooperatives. But Sioux Valley Electric Cooperative at Colman, South Dakota, may be alone in supplying a textbook to vocational agriculture and homemaking classes; it is called *Electrical Textbook for Farming and Homemaking*.

No attempt has been made in this article to list all of the individual electric borrowers and groups of borrowers which are fostering education in these and other ways. In particular, no mention has been made of the assistance they are giving to 4-H Clubs and chapters of Future Farmers of America; this topic may be discussed in a subsequent issue.

TELEPHONE COMPANY IN INDIANA EMPLOYS FOUR GENERATIONS

It would be pleasant to attribute the growth of the Smithville Telephone Company at Ellettsville, Indiana, solely to the fact that its president and manager, Byron A. Draper, employs in it his mother, his wife, his daughter, his son-in-law, and his granddaughter.

But the statement would hardly be accurate. It takes many elements to build a successful telephone company. The other factors can be enumerated as follows:

1. Mr. Draper's determination to bring modern telephone service to everyone within reach, and his belief that it is no longer a luxury but a necessity for every rural family.

2. A readiness to use REA loans to expand and improve service.

3. A hard-working staff, who receive good wages and ample employee benefits.

4. A providential economic growth in central and southern Indiana.

5. Mr. Draper's own ability and experience in telephony and business. Mr. Draper entered the telephone business in 1931 by purchasing two small telephone companies, one in Ellettsville and the other in Smithville. The latter was then in receivership. The combined company had 296 subscribers. (The Smithville company was founded in 1918 by J. K. Johnson, first secretary of the Independent Telephone Pioneer Association.)

The plunge was not entirely reckless. Mr. Draper was acquainted with the telephone business; he had attended Rose Polytechnical College at Terre Haute, and worked summers on outside plant for the Citizens Independent Telephone Company in the same city. He

had also been a bank teller. As one interesting consequence, he understands completely REA's requirements for adequate security on any loan it makes.

For a time he built slowly. In 1936 he acquired the Hoadley Telephone Company (153 subscribers) at Gosport, Indiana, but in the main he continued to improve his facilities by plowing back profits.

It is a custom he still follows.

By 1954 the Smithville Telephone Company had 974 subscribers. But it was not good service, and it was apparent that there was a pent-up demand for more telephone service. Economic conditions were rapidly improving. In fact, this has become the second fastest growing area in Indiana. The number of farms (pigs, cattle, vegetables, corn) has decreased, but the residents who remained have become part-time commercial and industrial workers—and want telephones. Many people have moved into the region, but not to farm. Old businesses have expanded and new ones have come in. The University of Indiana at Bloomington (which Smithville Telephone does not serve) has become larger.

Bloomington is reputed to be the location of the only factory in the country where TV color picture tubes are made; this has had important repercussions on the economy of the surrounding areas. To take only one sample: the population of Ellettsville, six miles away, has grown from 750 in 1953 to about 1,450 at present.

Beginning in 1954, Mr. Draper negotiated a series of loans from REA, thereby going with the tide—and perhaps a little ahead of it. With the aid

REA Transmits Experience To Foreign Countries

The Rural Electrification Administration has started to transmit the REA pattern of rural electrification to peoples in other countries.

Its instrument is a booklet financed by the Agency for International Development which, in 24 pages and 104 numbered paragraphs, covers all phases of the organization and operation of electric cooperatives. Half of the brochure deals with engineering phases of the operations, with particular emphasis on problems which have been met — and solved — by REA during its 28 years of existence.

A statement made by President John F. Kennedy appears as a preface: "One of the most significant contributions that we can make to the underdeveloped countries is to pass on to them the techniques that we in this country have developed and used successfully."

To further implement this goal, the booklet will appear in Spanish and Portuguese editions.

Single copies of the English edition, just published, may be obtained by writing the Rural Electrification Administration, U. S. Department of Agriculture, Washington 25, D. C.

of these loans he acquired the Monroe County Telephone Company, the Star Telephone Company at French Lick, eight telephone exchanges known as the "Hosea property" from a receiver appointed by the Federal Court, the Owensburg, Scotland, and Little Cincinnati exchanges, and the Freeman Telephone Company, all in central and southern Indiana.

Last January, REA approved a loan to the Smithville Telephone Company of \$1,716,000 to furnish initial service for 1,679 subscribers and to improve service for 180 others.

With this loan the company will add 277 miles of line; create a new exchange at Monroe, with a new dial office building; serve more territory in Greene county; and extend service for the first time into Brown county.

To meet the needs of the 180 subscribers whose service will be improved, the company is acquiring with

its own general funds the Newberry Telephone Company, which now provides magneto and common battery service to 149 subscribers. All of these facilities will be retired, and the community served from the company's Lyons exchange.

The 277 new miles of line will be completed sometime in 1965. About 75 percent will be buried plant. Mr. Draper strongly favors this type of construction because "it requires much less maintenance and provides more dependable service."

The net result of the new REA loan will be new and improved service to 11,196 subscribers over 1,706 miles of line in 17 counties. The system will consist of 12 exchanges, of which 10 now furnish dial service to about 7,540 subscribers.

Mr. Draper has given ample evidence, with previous loans, of his willingness and ability to provide new or

improved service. The Hosea property at the time he bought it had 1,628 subscribers; now it has 2,792. The number of subscribers in the Owensburg exchange, including the Scotland and Little Cincinnati areas, has grown from 127 to 603. The Newberry area, with 153 subscribers, will soon have an additional 100, thanks to his persistent area coverage policy.

Practically all of this Mr. Draper reported from memory. . . but complains that he does not remember figures the way he used to!

Minimum residential telephone bill on the system is \$4.50; minimum rural bill is \$3.75. Average number of subscribers per mile is seven. About 20 percent of the subscribers have private lines. The company is now busy converting to 1-, 2-, and 4-party service. It is fortunate for Mr. Draper that, as he puts it, "Work is my hobby."

But he is equally ready to say, "The employees built this company, not I." These are 35 in number—9 inside and 26 outside. Foremost among them are his mother, 82-year-old Mrs. Edna Draper, the company's secretary-treasurer, who started with the company in 1931; his wife, Mrs. Harriett Draper, vice-president; daughter, Mrs. Patsy Earles, who met her husband—now outside plant superintendent—when they were both attending the University of Indiana; and their daughter, Darby Earles, a senior in high school who works during vacations. The women are involved in accounting, bookkeeping, or billing operations.

Mr. Draper believes in expressing his gratitude to his employees in concrete fashion by paying good wages, and providing liberal life insurance, hospitalization, disability, medical, and pension benefits.

The company well illustrates the general trend in the telephone industry: a reduction in the number of

independents from 20,000 to fewer than 3,000—but the ones remaining are stronger than ever before. As REA Administrator Norman M. Clapp told a group of independent Louisiana telephone companies last February "... A larger percentage of the independents today have sounder financial structure, better bookkeeping and more modern plant than any one would have dared to predict a dozen years ago."

Mr. Draper is convinced that good telephone service has a far-reaching effect upon the economy of any area. But his concern for the welfare of his area goes much further than that. He has bought stock in the Kimball Piano Company, a defunct Chicago company which has now been moved to French Lick and reopened. It employs 300 persons. He has also invested, together with other citizens, in a project that calls for building a \$600,000 airport at French Lick. The Government is putting in two-thirds of the amount; the rest is being raised locally. The airport is expected to open in a year's time.

Five fatalities occurred on the lines of REA borrowers during the first four months of this year. During the same period last year, none took place.

**SAFETY
IS
MANAGEMENT'S
JOB !**

Nebraska Telephone System Revamps Storage and Repair Facilities

Ben M. Wagner, manager of Glenwood Telephone Membership Corporation at Blue Hill, in the south central part of Nebraska, is proud of the way the cooperative's repair and storage facilities have been remodeled and revamped. He considers this a prerequisite of good service to subscribers.

Equally impressed is the REA field representative in the area. He says the project has resulted in "a fine example of what repair and work areas should be in looks, neatness, cleanliness, and efficiency."

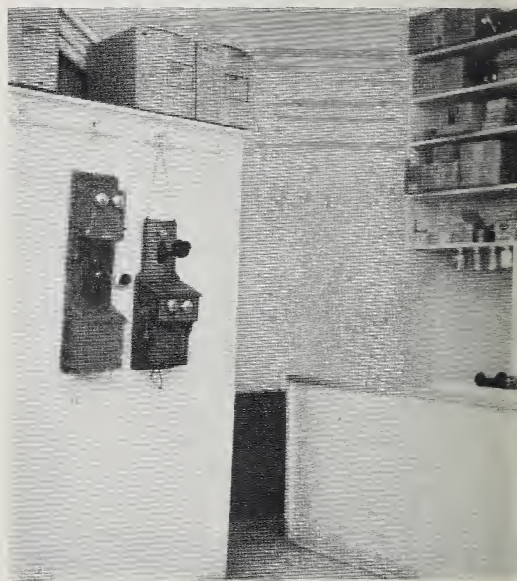
The telephone cooperative has made use of \$1,331,000 in REA loan funds to develop eight exchange areas that serve more than 2,000 subscribers, practically all with dial telephones.

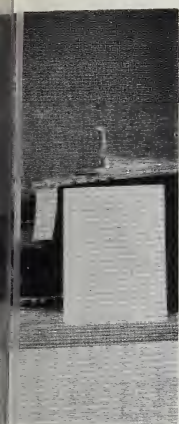
These pictures tell the rest of the story.



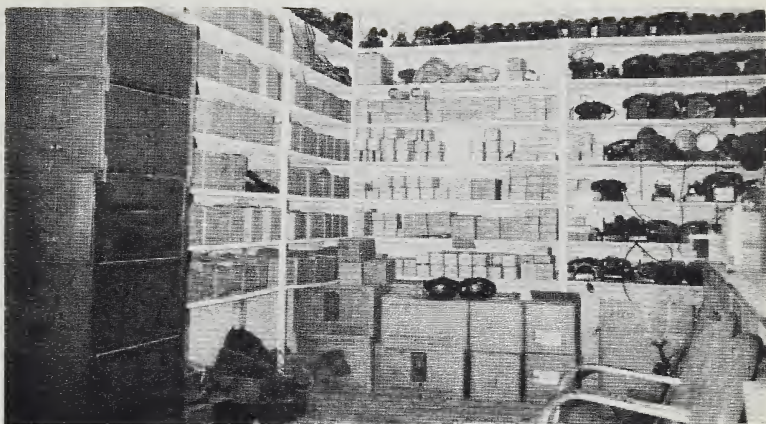
View of office, Glenwood Telephone Membership Corporation, Nebraska. Clerk-typist Ruth Kral in foreground.

Repair desk for station apparatus. Note antique





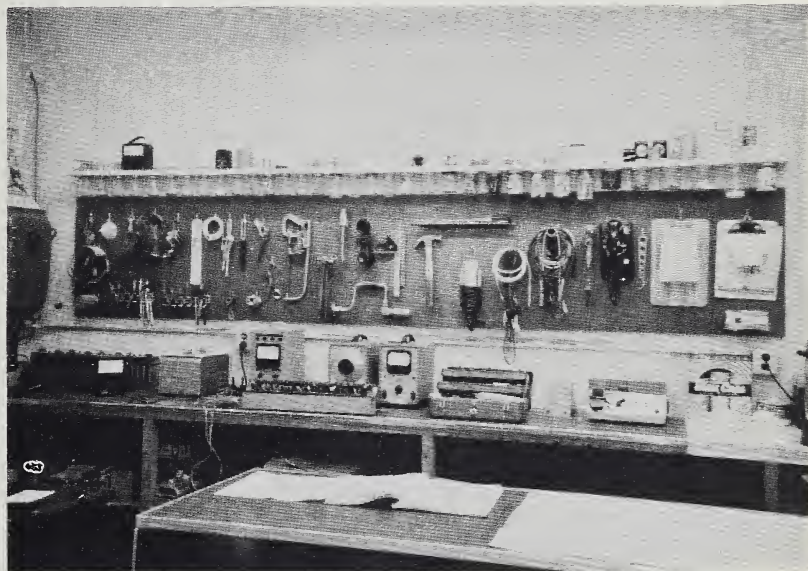
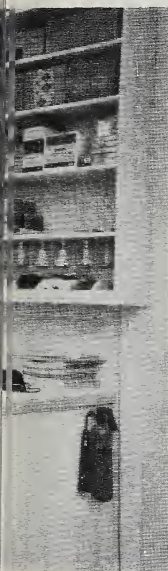
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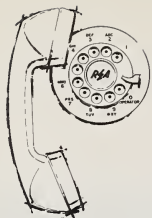


Storage room for station apparatus ends clutter.

phones on wall.

Tool board makes life easy for Glenwood Telephone repairmen.





TELEPHONE WORKSHOPS

by Jack G. Bullis, REA Field Engineer

Workshops for REA telephone borrowers are needed because independent companies and cooperatives serving rural areas often have difficulty in obtaining technically qualified personnel.

Most of these telephone systems are small, and hence lack facilities and trained persons to instruct maintenance people.

Yet the job must be done if borrowers are to cut operation expenses and provide better service.

Under these circumstances, several borrowers in a given area may sponsor a workshop.

What follows are some observations and conclusions drawn from our experience with these workshops.

In organizing a school, a suitable meeting place, centrally located, must be found. One-day meetings can usually be attended by personnel within a 40-mile radius. Two-day and three-day schools can be set up for as much as 100 miles. The best available facilities should be obtained, with emphasis on sufficient room, good lighting and ventilation, proper heating and equipment. The location should not be noisy or offer distractions.

The schedule recommended for a typical one-day station installation school runs as follows:

8:30 to 9:30 a.m. Importance of good stations and station staking.

9:30 to 10:20 a.m. Drop wire and drop wire runs.

10:45 to noon. Station protection and grounds.

1:00 to 2:00 p.m. Station wiring and connections.

2:00 to 3:00 p.m. Service orders and trouble tickets.

3:15 to 4:00 p.m. Staking stations and buried drop services.

4:00 to 4:30 p.m. Working methods and safety.

4:30 to 5:00 p.m. Trouble shooting and trouble-shooting equipment.

Outside plant maintenance workshops should be held in the late fall so as not to interfere with the regular plant construction season. Plans should be worked out with adjoining States so that the help of special staff personnel and technicians located there might be available.

Workshop meetings should not be held in conjunction with any other meeting, so that persons attending can put their full attention to the problem at hand.

The meeting should last about two days, and be held generally in the middle of the week, enabling maintenance personnel to attend and yet keep in contact with their systems.

Attendance should be set up on a small area basis, to minimize travel expenses and travel time. No more than 35 persons should attend a meeting.

Subjects to be covered in an outside plant maintenance workshop are as follows: plant records; trouble reporting; service orders; use of the multi-meter; use of the wire chief's test set at central office; proper use of associated equipment; use and care of basic carrier equipment; carrier lineup procedure and testing; problems in connection with subscribers and stations;

maintenance and trouble-shooting on open wire and distribution wire facilities; maintenance and trouble-shooting of aerial cable and buried plant; special electronic equipment; central office equipment maintenance and routining; maintenance of tools and equipment.

Carrier and repeater workshops should be limited to 20 persons. The program should include: need, explanation, and use of test instruments; carrier (alignment procedure, recording of jack readings, use of jack reading in trouble analysis, demonstration of cut-off points in filters by use of oscillator and VTVM, frequency of routines, protection procedures); insertion loss measurements; carrier and voice repeaters (application, alignment, and testing).

Materials necessary for conducting this kind of workshop are as follows: 1 channel of carrier (trunk); 1 channel of carrier (subscriber); 2 oscillators; 2 VTVM's; 2 Lynch 2624 repeating coils; 2 WE 120H repeating coils; 1 artificial line with variable attenuator or a series of decibel pads; 1 voice frequency repeater; and 1 carrier frequency repeater.

Borrowers are asked to have their men bring a multi-meter. Some larger companies will provide frequency generators and VTVM's if requested to do so.

The number of persons who have attended these schools has been gratifying. One held March 16, 1961, at the Vernon Electric Cooperative auditorium in Westby, Wisconsin, was attended by representatives from 4 engineering firms (18 persons); 2 contractors (14 persons); and 13 telephone borrowers (33 persons).

Their comments were equally gratifying. They ran like this: "The program was fine. I think we should have more meetings of this type." "Very beneficial and well put." "Very informative and brought much to light that is little thought about." "Good educational meeting." "Very thorough; gives you an idea of what you are working with. Well worth the time spent."

Only one other State has more REA telephone borrowers than Wisconsin, and interest in the telephone business and its related problems runs high. This probably explains why 11 successful technical workshops have been held during the past five years in this area. Most borrowers desire to keep abreast of latest developments and to acquire as much information as possible in order to operate their systems more effectively. REA field people and borrowers' personnel feel that these meetings have helped the independent company or cooperative meet more efficiently the everyday problems it encounters.

Station installation school held at Westby, Wisconsin.



Appliances and House Heating

Pull Vermont Co-op Out of Red

When an electric cooperative can't add new residential or commercial consumers, it can induce its existing consumers to increase their electric consumption. This is the course that Walter Cook followed when he became manager of the Vermont Electric Cooperative at Johnson, Vt., in 1948.

It was obvious that he had to do something. For one thing, he could hardly expect to provide adequate member services with a \$17,000 deficit. (Exact 1948 figure: a deficit margin of \$17,769 on operating revenues of \$132,725.)

The system was beset by other problems, particularly deferred maintenance. Some of its 2,152 consumers were becoming resigned to low voltage on the end of the distribution lines—but others were not.

Since that time, the number of consumers has increased to 2,800 (on 870 miles of line), but most of the gain is in "seasonals." Though the annual rate was raised from \$18 to \$36 last year for part-time users, some members of the cooperative still feel that the seasonal consumers are subsidized.

Recent annual statistics show that the cooperative had a net margin of \$24,073 on operating revenues of \$515,000. It has accumulated \$132,000 in margins.

The secret? An increase in average monthly consumption from 186 kwh in 1948 to 651 kwh now, with consequent excellent effects upon the cooperative's debt service earned ratio.

Partly responsible is the co-op's appliance division—established largely

because of the failure of local dealers to pursue an aggressive selling policy. The division does an annual business of about \$200,000. Roger Jones, hired in January 1951 to head this division, now supervises the work of a woman bookkeeper, her assistant, a salesman, four men who install appliances and do wiring, and one man who does repair work. The cooperative sells the appliances at the recommended retail price and its directors recently voted to provide free wiring installations and free repairs within the warranty period.

The cooperative handles only one well-known brand of appliances, chosen after careful study and after it became convinced that this line would require a minimum of service. The manufacturer's representative says that the cooperative's active promotion has helped build sales of this brand for other dealers in the area.

A second important factor in load development was the adoption of an electric heating rate at 1½ cents determined on the basis of competition from other types of heating. Electric heating consumers get a new 100-amp service and a separate meter. These consumers can be identified by the dual entrance and dual meter setup. The cooperative does not change out the 3 KVA transformer until monthly consumption exceeds 1,000 kwh.

Mr. Cook argues that "an electric heating job is like adding a new member to your co-op system," and has the facts, figures, and graphs to prove it. But his operating report alone is enough to convince even the most skeptical.

RESORT AREAS BRING INCOME TO COLORADO

Winter fun-time in many rural sections of the Northwest is inevitably rural electric time.

All the thrills and excitement of skiing on powder-snow slopes flanked by the deep green of pine and spruce trees are made doubly enjoyable by the electricity that powers the tows, heats the lodges, and provides the lights from rooms to slopes.

The isolated sports areas are often set at the ends of lines strung by rural electric cooperatives to serve ranchers, TV boosters, and small businesses.

REA-financed systems located in such areas can be of great assistance in developing these commercial recreation enterprises, not only by providing modern electric or telephone service but also by helping them obtain loans from



Skiing at Vail Village, Colorado, where lifts, resorts, and stores are powered by Holy Cross Electric Association, an REA borrower.

the Farmers Home Administration and other Government sources.

In January 1963 two spectacular ski resorts of this type were opened in Colorado—one at Crested Butte in the Gunnison country, and the other at Vail on the western slope down from Vail Pass. By coincidence, openings were on the same day.

Gunnison County Electric Association, managed by Homer Duke, played an important role in the development of the Crested Butte ski area, housing area, and chalets, all of which are electrically heated and powered.

Crested Butte, headquarters of the cooperative, is returning from the depression left when the Colorado Fuel and Iron Corporation shut down its operations there in 1952.

But the quaint old coal-mining town, 28 miles north of Gunnison, Colorado, is surrounded by mountains . . . and in Colorado mountains mean skiing.

At Crested Butte skiing requires a 2,300-foot T-Bar powered by a 50-horsepower electric motor. A J-Bar lift is powered by a 30-horsepower motor.

Biggest load, however, comes from the 280-horsepower motor which powers the gondola lift carrying skiers on a vertical rise of 1,200 feet over a distance of more than a mile.

All power lines in the area are underground.

Crested Butte was host to the North American Nordic championships February 21-24, and the NCAA regional championships March 2-3.

An airline ran special fast planes at lowered rates to Gunnison for skiers.

As of December 31, 1962, the Gunnison system had 1,108 consumers on 420 miles of line. It has borrowed \$1,360,194 from REA. Eventually it will serve 1336 consumers over 474

miles of line. Average monthly kwh consumption for all consumers rose from 152 to 235 in a decade. The new resort load should help the cooperative considerably in overcoming its present deficit operations.

The Vail resort area is said to be unequalled in the United States, since it includes an entire village at an altitude of 8,200 feet that serves as a base for slopes rising to 11,250 feet. Vail is an official post office, served by direct bus line, nearby rail facility, and private airport near Eagle.

Gondola tramways, high-speed double chairlifts, beginners' lift, first-class resort hotel and motel, shops, apartments, and a small community of private homes add up to a grand total of a \$5 million investment and a grand design for fun.

It also provides an important load for the Holy Cross Electric Association, Glenwood Springs. Manager is George W. Thurston.

The Vail ski system, which moves 500 skiers an hour in enclosed comfort and safety, has already had its share of national honors. The first annual Olympic training camp closed the first part of January; Southern Rocky Mountain Downhill and Slalom championships were held in mid-January; and the first Vail trophy race was held February 9 and 10.

As of December 31, 1962, Holy Cross Electric served 2,305 consumers over 669 miles of line. During the past decade, consumers increased their monthly kwh consumption from 198 to 421. The members' equity in the cooperative amounts to 20.5 percent. (Adapted from the August 1962 and February 1963 issues of *Colorado Rural Electric News*, published by the Colorado State Rural Electric Association.)

How Automation Affects Jobs

by Walter J. Clayton, Labor Relations Advisor, REA

A manager who was planning to install data processing equipment in his office recently visited us. He was interested in the personnel needed for such an operation, and particularly desired to retrain some of the office help to man the equipment. He said that he had read that employees are generally concerned when they hear about automation, believing that their jobs will be eliminated. Mature workers seem to be more disturbed than younger workers.

We told him that automation was causing management to change some of its personnel policies. It was indeed stressing the retraining of employees for new jobs. Good managers, instead, have set up training programs for their present employees. This has helped employee morale and efficiency.

We repeat. Management has a responsibility to its employees to retrain them for new jobs when their old jobs are eliminated through no fault of their own. This is especially true in small communities where any discharges become community gossip.

However, certain problems do arise in the field of job evaluation. The problem consists of applying established job-evaluation techniques to new automation jobs. It must be recognized that previous techniques may not be adequate for the measurement of automated jobs. Factors that used to weigh heavily in determining job value are of lesser significance in automated jobs, while other factors acquire greater significance.

Most job-evaluation plans apply most weight—50 percent or more—to skill factors, which decline in importance as automation proceeds. Increasing automation also outmodes traditional methods of compensating employees for time spent at work.

Following is a list of criteria on which pay has been based: seniority, physical effort, mental effort, dexterity, "general" skill, education, experience, exposure to hazards, acceptance of undesirable conditions, responsibility relating to safety of equipment or people, decision making, the worker's direct influence on productivity.

Among these, only seniority remains unaffected by the degree of automation with which an operator may be involved. In general, other criteria grow less stringent with "automaticity."

New factors worthy of consideration are attentiveness, alertness, ability to accept indirect supervision and to work effectively in relative isolation, the quality of training involved, and, perhaps, tension. Often, application of a new job-evaluation system points to an evaluation substantially below that of the previous, less automated job. In such a situation, the conclusion is frequently unsatisfactory to both management and employees.

When workers are told about new job-evaluation plans and understand the new techniques that will be used in setting their wages, they become more understanding and more efficient.

COST OF PURCHASED POWER

Statements have been made recently by commercial power companies to the effect that the overall rate at which they sell power to REA electric borrowers is less than the overall rate at which they sell power to other wholesale consumers.

An REA examination of the figures shows that, if "wholesale" is taken to mean sale for resale, this statement is not correct.

Data for 1961 obtained from the Federal Power Commission gives the following figures for composite sales to "Other Electric Utilities" (sales for resale), by privately owned Class A and B Utilities:

<i>Calendar Year</i>	<i>Sales (kwh)</i>	<i>Revenue (\$)</i>	<i>Average Cost (cents per kwh)</i>
1957	67,136,222,000	508,498,899	.757¢
1958	67,012,648,000	509,985,629	.761¢
1959	71,101,010,000	531,026,237	.747¢
1960	78,366,541,000	583,856,040	.745¢
1961	86,347,592,000	645,192,955	.747¢

The cost of energy purchased by REA borrowers from power companies is as follows:

<i>Fiscal Year</i>	<i>Average Cost (cents per kwh)</i>
1957	.79
1958	.80
1959	.78
1960	.78
1961	.78

A check was made to assure that substantially all of this power came from Class A and B utilities.

Although one set of data is for calendar years and the other for fiscal years, it will be noted that for every period the average cost to REA borrowers was higher than the average cost to all consumers who bought power for resale. The average cost to REA borrowers ran from 7.8 mills per kilowatt hour to 8 mills during the years in question, whereas the average cost to other wholesalers ranged from 7.45 mills to 7.61 mills.

The Rural Electrification Administration announces the publication of a 20-page pamphlet entitled

THE RURAL ELECTRIFICATION PROGRAM TODAY

It contains the addresses made by Secretary of Agriculture Orville L. Freeman and REA Administrator Norman M. Clapp before the 21st annual meeting of the National Rural Electric Cooperative Association at Las Vegas, Nevada, January 1963. It is available upon request.

IMPORTANCE OF GOOD DIRECTORS

by Glenn E. Heitz, Deputy Governor
and Director of Cooperative Bank
Service, Farm Credit Administration

In an address a few months ago, I said the competence and performance of a cooperative's board of directors have a strong bearing on that co-op's credit rating.

This statement caused a modest raising of eyebrows in the audience. Yet no one argued with the further explanation—that taking a look at the co-op's board is one excellent way to size up the co-op. Such matters as the extent to which a board member supports his cooperative can speak volumes to an onlooker.

At every opportunity I urge leading, progressive farmers to seek service on boards of cooperatives. True, many farmers serve on boards merely for prestige value, but this is far less a problem than the number of those who shy away on the pretext they do not have time. No one will deny that the job of making a living on the farm today is anything but a full-time one. However, a complete job of farming can no longer be done within the line fences of the farm. Too many of the factors that determine the farmer's success or failure — markets, sources of farm supplies, credit, to name only three—extend beyond these limits.

For proof of this, we need only to look around us. We have witnessed in recent years the makeup of both farmer's markets and sources of supplies being concentrated into fewer hands. In an effort to keep the scales in balance, the farmer needs professional sellers to match professional buyers in the marketing of his products. This is a fancy way of saying



Glenn E. Heitz

farmers need ever-stronger cooperatives to maintain any semblance of bargaining power.

Farmers who shun cooperative leadership should remember that:

1. Investments in effective marketing, purchasing, and service cooperatives not only increase farmers' bargaining power, but often yield them a far greater dollar return than do investments in their farms.

2. The "best buys" in agriculture today are in electricity, credit, and fertilizer. It is no accident that all three areas are ones where farm people have been particularly active through cooperatives.

It is generally true that farmer cooperatives do have capable boards of directors. In fact, we have noted in recent years that their quality is improving. But the importance and urgency of having directors that measure up to the challenges facing agriculture today cannot be overstressed. Certainly, every farmer, in parceling his precious time to off-farm activities, must conclude that seeking service on the board of his cooperative rates high priority.

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OFFICIAL BUSINESS



A technician with USDA's Motion Picture Service shoots a scene in the movie, "The Snow Making Machine — A Story of Community Progress." This 15-minute film, now available from REA and the Agriculture Department's Office of Rural Areas Development, tells the story of what can be accomplished by local initiative, and a small assist from the Federal Government, to improve local economic conditions through the development of recreational facilities. (See Administrator's Message in this issue, on page 2.)